

THE MONASTERY OF
ST. CATHERINE AT MOUNT SINAI:
THE CHURCH AND FORTRESS OF
JUSTINIAN

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This paper was read at a Symposium on "Justinian and Eastern Christendom," held at Dumbarton Oaks in May 1967. It is printed here with some annotations and changes in the illustrations, but otherwise in substantially the same form in which it was delivered.

Since 1958 the Alexandria-Michigan-Princeton Expeditions to Mt. Sinai have been engaged in surveying the architecture of the Monastery of St. Catherine and in recording its vast collection of art objects. In the course of four campaigns, a total of about twelve months has been devoted to the field work. We have now concluded that phase and have begun publication of the results.

The first volume in the series, which will cover the sixth-century fortress and church of Justinian, is being published by the University of Michigan Press. Professor Kurt Weitzmann is contributing the section on mosaics and wall paintings; Professor Ihor Ševčenko deals with the palaeography and inscriptions; and I am responsible for the survey and analysis of the architecture. The truly magnificent photographic coverage was produced under the direction of Mr. Fred Anderegg, Supervisor of Photographic Services at the University of Michigan. Also it is a pleasure to acknowledge the very great contribution of Mr. Robert L. Van Nice to the architectural survey; he was generously released by Dumbarton Oaks to spend a total of four months with us at Mt. Sinai.

Because of illness I had to ask Professor Ševčenko to read this paper for me, which he did—very kindly and effectively. In footnotes herewith I touch on valuable comments which were made during the discussion after the reading of the paper and which were relayed to me.

MY purpose here is, first, to show you the fortress and church of Justinian, supplying at the same time relevant information as to their setting and history, and second, to consider the origin of the plan of the church. Lastly, I shall draw a few conclusions concerning the monastery which seem relevant to the theme of the Symposium.

The existence and form of St. Catherine's are largely explained by its location. It stands near the center of the barren granitic mountains whose tumbled masses fill the lower reaches of the Sinai Peninsula and form an almost impenetrable fastness between Africa and Asia. Like the Thebaid, it provided a secure retreat for hermits who fled from the world and established the monastic tradition of the Peninsula.

At the same time these devious and obscure gorges gave shelter to a very different kind of activity. For millenia the desert tribes of Arabia have used the Sinai Mountains as a covert for infiltrating Palestine. It is owing to this fact that our monastery also takes the form of a fortress.

More specifically with regard to architectural history, such a region could not support the towns and the nexus of communications which would give rise to a regional school of architecture. As an architectural entity, St. Catherine's is strictly an import. There are two equally good—or, more accurately, two equally difficult—channels of possible architectural influence. The monastery lies in a fork between two waterways which have been avenues of commerce and cultural influence since the Pharaohs and King Solomon. Its architecture could, therefore, be directly influenced by Egypt or by the Palestinian-Syrian area. I hope to be able to show that the latter is the case.

The monastery lies in the Wadi ed-Deir ("The Valley of the Monastery") below a shoulder of Mt. Sinai (fig. 3). To the west the valley broadens out into the Plain of er-Raha, the traditional camp ground of the Israelites while Moses communed with God on the summit of the mountain. There is no certainty that this is the actual Mount of the Decalogue. The Jews, after settling in Palestine, lost all track of their former wanderings. Since the fourth century, however, this mountain, Gebel Musa, has been accepted as the veritable one, and the spot where the monastery now stands has been revered as the site of the Burning Bush. At the end of that century the spot was visited by Etheria, whose travel diary, the *Peregrinatio*, has survived and is a mine of information concerning Jerusalem and other sacred places in the Holy Land and the Near East in about the year 396.

Etheria's careful record of her travels includes an account of her visit to Mt. Sinai.¹ She describes in detail her ascent of the west side of the mountain, whereon she passed a night, and her descent on its eastern side. The path which she followed led her to the site of the Burning Bush which, she says, "is

¹ English translation by M. L. McClure and G. Herbert in M. L. McClure and C. L. Feltoe, *The Pilgrimage of Etheria* (London, 1920); concerning Mt. Sinai, pp. 1-11.

alive to this day and throws out shoots." The Bush stood in a very pleasant garden and behind it, as she approached, was a church. Both Bush and church were under the care of holy men who lived in cells on the surrounding slopes and who provided accommodation for her and for her party.

Although the monastery of Justinian would not be built here for another century and a half, its basic pattern as the place where stood the sacred Bush, tended by an eremitical group who maintained an adjoining church and welcomed pilgrims, was established already. The architectural program was essentially complete—save for one feature, defense.

According to various accounts, the holy men of the Mountain who welcomed Etheria at the Burning Bush were soon thereafter subjected to persecutions and massacres by wild tribes. The accounts are unreliable and seem largely fictitious, but they may contain authentic reverberations of that restless movement of peoples along the eastern marches of the later Roman Empire, like besiegers testing the defenses of a fortress. Under Justinian and his predecessors, an elaborate defensive system had been erected to counter such threats. Extending all the way from Armenia to the borders of Egypt, its northern sector was designed to withstand onslaughts of the redoubtable Sassanians from Persia and its southern part was intended to blunt the fierce raids of the desert peoples.

The present fortified monastery at the foot of Mt. Sinai appears to have been erected by Justinian as a part of this defensive system. According to a later account, he built it merely to protect the monks, at their urgent plea; but Procopius says in his book, *On the Buildings*, which is contemporary with the monastery, that its function as a fortress was to prevent the Saracens from making surprise attacks upon Palestine from this uninhabited region. The parts of Procopius' account which are relevant to the foundation of the monastery are as follows:

In what was formerly called Arabia and is now known as "Third Palestine," a barren land extends for a great distance, unwatered and producing neither crops nor any useful thing. A precipitous and terribly wild mountain, Sina by name, rears its height close to the Red Sea, as it is called On this Mt. Sina live monks whose life is a kind of careful rehearsal of death, and they enjoy without fear the solitude which is very precious to them. Since these monks had nothing to crave—for they are superior to all human desires and have no interest in possessing anything or in caring for their bodies, nor do they seek pleasure in any other thing whatever—the Emperor Justinian built them a church which he dedicated to the Mother of God, so that they might be enabled to pass their lives therein praying and holding services. He built this church, not on the mountain's summit, but much lower down. For it is impossible for a man to pass the night on the summit, since constant crashes of thunder and other terrifying manifestations of divine power are heard at night, striking terror into man's body and soul. It was in that place, they say, that

Moses received the laws from God and published them. And at the base of the mountain this Emperor built a very strong fortress and established there a considerable garrison of troops, in order that the barbarian Saracens might not be able from that region, which, as I have said, is uninhabited, to make inroads with complete secrecy into the lands of Palestine proper.²

It must be admitted that Procopius' account, taken by itself, is not very satisfactory. He mentions the church, then the mountain on which Moses received the laws from God, and finally the fortress at its base. From this description one might conclude that the church and the fortress, being mentioned separately, were located at a distance from each other. Fortunately our church, surrounded by fortress walls, bears its own documentation in the form of an inscription of Justinian carved on a beam over its nave. And there is no other fortress in the region. Clearly, then, Procopius refers to our church with its fortress.

Moreover, it is curious that Procopius makes no mention of the Burning Bush nor of pilgrims to its site. Indeed, he stresses the solitude of the monks which, as he says, is "very precious to them." In Procopius' account the chief emphasis is placed on the monks and on the Saracens, so that Justinian's foundation would appear to have been monastic and military. We are fortunate to be able to read in the layout of the monastery church itself that it was designed to function as a center of pilgrimage—of pilgrimage to an outdoor relic, doubtless a growing bush as in Etheria's day. In order to verify this fact we may examine the east end of the church. At present the area behind the main apse is occupied by the Chapel of the Burning Bush, so called because its altar stands over a slab which marks the site of the Bush (fig. 14). Access to the chapel is through doors from two neighboring chapels which are at the ends of the church aisles and which jut well beyond the main apse. The relation between the three chapels is clear in the plan (fig. 2). As viewed from the exterior, the roof of the Burning Bush Chapel appears as a flat surface sloping down from the three-sided housing of the main apse and flanked by the domes which cover the two adjoining chapels (fig. 5).

Originally there was no Burning Bush Chapel but, in its stead, a small open area at the foot of the main apse, like a diminutive court or open bay, accessible through the two doors from the adjoining chapels. In the court would have stood the Bush itself, ever flourishing. Evidently the present Chapel of the Burning Bush is later than the church because it projects beyond the corner chapels and overlaps them. The lines of reprise are clear and unquestionable. The exact date when the Bush was replaced by the chapel is unknown, but it would have been before 1216. In that year a German pilgrim, Magister Thietmar, visited Sinai and has left the following record: "There is also in a chapel of this monastery the spot where stood the bush venerated by

² *De Aedificiis* V. viii. 1, 4-9 (English translation from H. B. Dewing and G. Downey, *Procopius*, VII, *Buildings* [Loeb Classical Library, 1954], pp. 355, 357).

all, as much by Saracens as by Christians The bush has indeed been taken away and divided among Christians for relics."³

In spite of Procopius' description of the fortress as "very strong," it does not appear as formidable as his phrase suggests (figs. 1, 3). Standing at the base of a slope, its walls could have been dominated by archers from the heights above. While its vulnerable position was, of course, dictated by the site of the Burning Bush near the bottom of the valley, the puzzling fact remains that Byzantine military engineers, famous for their skill in fortification and siegecraft, should have been content to encircle the fortress by a wall unprovided with effective flanking towers. Those on the lower side, facing northeast, are relatively modern; the original ones on the upper, southwest, side are mock towers, projecting too little to provide enfilading fire along the curtain wall. Probably such a token fortress was adequate to overawe desert tribesmen. Indeed, Procopius himself says, in explanation of a humble fortification wall elsewhere, "the Saracens are naturally incapable of storming a wall, and the weakest kind of barricade, put together with perhaps nothing but mud, is sufficient to check their assault."⁴

The original outer wall can be traced through its whole perimeter, under later remodellings and superstructures, and on three sides it rises to its original height. In many places its battlements are still in position. At the center of the southeast wall is the latrine tower, largely reconstructed in later periods.

Obviously the architect was greatly inconvenienced by the location of the site of the Burning Bush which, like any holy spot, could not possibly be moved. Since it was located only a short distance up the side of the valley, whose floor is occasionally scoured by flash floods from the heights to the east, he was unable to dispose the square plan of the fortress around the Burning Bush site as its central focus, which would have been a more obvious arrangement, without risking destruction of that part of the fortress which would consequently project on to the floor of the valley and be exposed to torrential runoff. In his effort to avoid such an exposed position, the architect has erected the square parallel to the valley floor and as far up the slope as possible, accepting a lopsided composition wherein the site of the Bush is at one side of the square and in its lowest part (fig. 1).⁵

³ *Est eciam in capitello eiusdem monasterii locus, ubi rubus stabat, ab omnibus tam Sarracenis quam Christianis veneratus Rubus quidem sublatus est et inter Christianos pro reliquiis distractus* (Mag. Thietmari Peregrinatio. *Ad fidem codicis Hamburgensis*. Ed. by J. C. M. Laurent [Hamburg, 1857]). Laurent notes that the *capitello* is the *capitio* s. *presbyterio*, *ubi altare situm est* (*op. cit.*, fn. 503). If it were possible to excavate in the area where the Bush originally stood, perhaps some traces might be found of the original architectural arrangements around it, such as retaining walls, balustrades, etc. Quite understandably, however, the monks would not authorize excavations anywhere within the walls of the monastery and certainly not under the floor of the Burning Bush Chapel!

⁴ *Buildings*, II. ix. 4-5 (Loeb, p. 157). Procopius is referring to the pre-Justinianic wall of Rusafa (Sergiopolis).

⁵ After the reading of the paper a commentator asked if the architect could not have found a solution which would place the church at least on the main axis, if not in the center, of the fortress. This is a point well taken. The answer, I believe, is that an architect working in the Roman tradition probably would have done so, somehow, but that the Mt. Sinai plan was made by a designer sensitive to the Greek tradition. In dealing with large complexes of important buildings the Greek tradition is more flexible and organic than the Roman, more concerned with the changing viewpoints and

The best preserved of the fortress walls is on the southwest side, beneath an enormous modern structure which occupies that whole flank of the monastery. At various places in the original circuit, especially at its corners, large glacis of rubble have been added during periods when the wall seemed precarious, perhaps due to the earthquakes which are on record. All the masonry is of granite, the only building material available locally.⁶

The main façade of the monastery is on the far right-hand side in our birdseye photograph (fig. 3). The entrance was a double one, consisting of a large and imposing portal, now walled up, and a postern to the left of it, now preceded by an eighteenth-century porch (fig. 1). The portal was crowned by a flat arch with decorative roundels at each end and must have been closed by a massive door (fig. 37). No doubt it was reserved for formal entry on great occasions while the postern served for ordinary use.

From the entrance of the monastery the route to be followed by pilgrims to the Burning Bush is clearly indicated by the architecture itself (figs. 1, 2). The route leads to the church, then goes along an aisle of the church and out into the former court of the Burning Bush, now the chapel of that name, and then back through the other aisle, thereby completing within the church a circuit in the form of the letter U, around the back of the apse. In order to follow the above route a pilgrim would enter the main portal of the monastery, or the adjoining postern, and pass under a porch beyond which he would see before him an unroofed passage. This led to a simple arched propylon which invited him to advance under it to the corner of the church beyond (fig. 38).

On the north side of the unroofed passage was the guest house, originally a two-storey structure of oblong plan. Since the eleventh century this has been, surprisingly enough, a mosque and is always assumed to have been built for that purpose; but there is ample evidence of its sixth-century date and of its original form and purpose before it was remodelled. In figure 39 are visible sills of doors, which once connected the second storey rooms, and traces of the floor which formerly abutted under the sills. Two doors, now blocked, led from the guest house to the small triangular court in front of the church

the vitality of diagonal planning (Delphi, Athenian Acropolis, etc.) than with the forensic confrontation of symmetrical balance which appealed to the military and legal mind of the Roman. In the situation at Mt. Sinai a Roman architect might have been inclined to impose a plan like that of a Roman camp by rotating the fortress rectangle counter-clockwise so as to align its main gate with the axis of the church. As noted above, any such solution would have projected the northeast corner of the rectangle far out on the valley floor, necessitating construction of a great protective bastion—a real levee—at that corner. The actual designer has taken a more typically Greek approach. Rather than contradict the natural configuration of the valley, he has accepted it and has thereby achieved a diagonal and descending approach from the main gate to the church. Such a leisurely, varied approach is not dramatic, but conduces to thoughtful appreciation of an architectural composition and of its meaning.

⁶ Viewed superficially, the masonry appears at first to be an ashlar of accurately faced and squared blocks having random lengths and an average height of 0.60 m. with flush joints carefully pointed, smoothed, and then struck with a sharp instrument so as to produce a rectangular grid outlining the blocks. Actually, the stones are dressed only on their faces and the real joints, behind the pointing, are large and rough hewn and are chinked with pebbles and chips. The interior of the wall, between its dressed outer and inner faces, consists of rubble stonework in abundant mortar, almost a flux of concrete. The wall structure answers, therefore, exactly to Vitruvius' description, five centuries earlier, of the Roman version of *ἐμπλεκτον* work (Book II, Chap. viii, 7).

(fig. 1). At the time of the remodelling three mihrabs were inserted in the south wall of the guest house, and a square minaret was built near its northeast corner (fig. 4).

In that part of the monastery which is to the right of its main portal, on entering, an open space may have been reserved as a courtyard, unencumbered by buildings; at least, I could find no trace of early structures there. As a pilgrimage center, the monastery was in part a caravansary and may well have included within its sheltering walls an open area for all the multitudinous activities of arriving and departing groups of pilgrims.

Continuing on the route from the portal of the monastery to the façade of the church, a visitor advances through the arched passageway and is surprised to find the church sunk deeply in the ground (fig. 6). As indicated by outcrops of live rock round about, this submergence is not due to a rise in ground level. Rather, it is caused by the fact that the site of the Burning Bush is in the lowest part of the whole monastery and therefore the floor of the adjoining church was established at about that level, a good four meters below the ground level of the portal of the monastery and of the approach from it to the church. A flight of steps leads from the upper level down to the church door; the steps are relatively modern but probably reproduce the original ones.

In order to offset as much as possible the effect of submergence, the façade of the church was heightened by increasing the vertical proportions of its interior beyond the norm and by making the gables inordinately high, much higher than the roof ridge, and by erecting at the corners two towers which seem to be purely for vertical effect (fig. 4). The campanile on the left-hand tower was a gift from Russia nearly a century ago.

To the left of the steps which lead down to the church is the wall of the mosque in which are the two blocked doors that once opened toward the church from that building while it was still a guest house (fig. 6). After entering the church at the right, the pilgrim would find himself in the narthex. Facing him was the great inner door of the nave (fig. 7). Immediately noticeable upon entering the nave is its lofty proportioning, reminiscent of many Romanesque churches (fig. 12). The view along it is obstructed by chandeliers and a huge seventeenth-century iconostasis, but originally the mosaics over the altar would have been visible for the full length of the nave, confronting a visitor when he first entered it.

The roof of the nave is carried by a series of thirteen trusses (fig. 21). Abundant evidence, including carbon-14 tests, guarantees that this sturdy structure has stood unaltered since the time of Justinian. It is centuries older than comparable examples existing elsewhere. From the seventeenth to the twentieth centuries it carried a lead sheathed roof, and very likely it did so from the sixth century.⁷ The trusses were originally visible from the floor of the church, but

⁷ "There you see a fair large Church, covered with Lead . . ." This observation concerning the Mt. Sinai church was made in 1658 (*Thevenot's Travels into the Levant* in John Harris, *Navigantium atque Itinerantium Bibliotheca* [London, 1705], Lib. II, Cap. IX, p. 433). In 1851 the nave of the church had a lead covering, as shown in a photograph made in that year by the grandfather of Mr. A. H. S. Megaw, to whom I am most grateful for a copy of this valuable record, almost certainly

since the eighteenth century wood panels have been suspended between the horizontal beams so as to produce a flat ceiling over the nave. The panels are flush with the bottom surfaces of the beams and therefore prevent a person standing in the nave from seeing three inscriptions which are carved on the sides of three of the beams and which could once be read from below (fig. 22). The inscriptions are invocations on behalf of the Emperor Justinian, of his Empress Theodora, and of Stephanos of Aila, who was the builder of the church.⁸ Since the first inscription implies that Justinian was still alive, while the second indicates that Theodora was already dead, the church must have been commissioned between the years when each died, that is, between 548 and 565. Since Procopius probably published the *Buildings* in about 560, the space of time may be narrowed to twelve years. It is a rare piece of good fortune that so well preserved a church should be a signed and dated work. Luckily the later panels were hung between the horizontal beams, not under them, and therefore do not conceal the bottom surfaces of the beams, on which are still visible sixth-century carvings of floral ornament and of animals, sea creatures, and river scenes (figs. 23–30). At a later date they were picked out with gold and red paint, enough of which has peeled off to reveal that the carvings are authentically original. This remarkable series of relief sculptures was executed realistically and with extraordinary verve.

The second beam from the entrance shows a Nilotic scene; in the center is a Cross, as on all the beams, and here it is flanked by tritons who carry Crosses (fig. 26). The left and right halves are occupied by river animals and plants and by two boats, one propelled frantically by two rowers, probably *erotes*, and the other under sail (fig. 27). On another beam is a lively frieze of animals, including a camel and an elephant (figs. 29–30). Also there are animated scenes of preda-

the oldest surviving photograph of the church. It may have been covered with lead from the beginning, like the Martyrium at Jerusalem which, according to Eusebius, was roofed with that material (H. Vincent and F.-M. Abel, *Jérusalem*, II [Paris, 1914], pp. 159, 208). As a possible alternative to lead sheathing, the Mt. Sinai church might originally have been roofed with tiles (*tegulae* and *imbrices*), which were in general use at that time on churches of Central Syria (H. C. Butler, *Early Churches in Syria*, ed. and compl. by E. B. Smith [Princeton, 1929], p. 199), but the large number of tiles required to cover the roofs of the Mt. Sinai church surely would not have disappeared utterly. In such a remote situation, where every piece of imported building material has always been precious, at least the *tegulae* would have been carefully saved for use as bricks in later constructions. I have found, however, no trace anywhere in the monastery of reused tiles. The massive balks of the trusses over the nave seem designed to carry such a leaden load as they ultimately were called upon to support. A modern roof of galvanized iron now covers the nave and aisles; the domes at the east end and the flat roofs of the side chapels are surfaced with cement; but the apse is still covered by sheets of lead on battens which rest directly on the half dome, constructed of granite blocks.

⁸ The texts of the three inscriptions appear in a preliminary publication by Prof. Ihor Ševčenko, which anticipates the full-scale study he will devote to them in the forthcoming volumes on the Monastery (I. Ševčenko, "The Early Period of the Sinai Monastery in the Light of its Inscriptions," *Dumbarton Oaks Papers*, 20 [1966], pp. 255–264). As to the Stephanos inscription, one of the problems in translating it is which of the English terms, "architect" or "builder," is more appropriate to express accurately his professional competence (in the inscription he is described as the τέκτονας). Pending the outcome of Prof. Ševčenko's future study, it may be safer to use the term "builder" as being less fraught with modern overtones than the term "architect" (cf. Downey, pp. xiv–xv in "Introduction" to Procopius' *Buildings*, as cited, *supra*, in fn. 2). As to the abilities and status, including possible ecclesiastical titles, of Syrian architects, see J. Lassus, *Sanctuaires chrétiens de Syrie* (Paris, 1947), pp. 262–264.

tors pursuing their quarry (fig. 30) and of underwater creatures (fig. 28). Finally, the easternmost beam shows at its center a Cross with confrosted peacocks and in addition two bulls, a rabbit, and a goat (figs. 23–25). The position of this barnyard group, directly over the altar and within six feet of the Moses scenes in the great mosaic over the apse, suggests a purely decorative intention rather than the unfolding of some iconographic scheme. The possibility should not be excluded, however, that an iconographic significance may be discerned in our beams as in contemporary floor mosaics. Certainly our beams illustrate admirably the phrase inscribed on the *mapa mundi* mosaic in the Basilica of St. Demetrius (Basilica A) at Nikopolis: “bearing round about in the skillful images of art everything that breathes and creeps.”⁹ If our beams do have such a meaning, as representing the terrestrial world, they might have been expected to keep their distance from the sanctuary, as is the case in the floor mosaic from Kabr Hiram.¹⁰ In any case, they attest to the competence and variety of Early Byzantine sculpture.

The great door to the nave, which is also richly decorated with relief sculpture, maintains the same standards of quality as the beam carvings (figs. 7–11). Like the beams, its lintel bears an inscription and its outer and inner surfaces are enlivened by reliefs of beasts, birds, and floral ornament. Paleographic and stylistic resemblances guarantee that it is of the same period as the beams. Such a door, with its four valves swung back, is a magnificent preface to the lofty church and theophanic spot beyond it. Among the subjects on the door panels are an eagle (fig. 9) and a splendid strutting cock (fig. 11). Also there is a beautiful horse (fig. 10) rendered in a pose and with a suppleness which are reminiscent of the kneeling animals found by Mr. Robert L. Van Nice on the brass sheathing of a door which leads from the outer to the inner narthex of St. Sophia and which appears to be one of the original doors of the church.¹¹

On passing through the door, one becomes more aware of the side aisles to left and right (figs. 15, 16). Actually, in the sixth century the approach through the central door may not have been freely open to the ordinary lay pilgrim. At that time the side aisles, not the central nave, would probably have been considered the appropriate avenues of approach for such pilgrims making their way to the Burning Bush; and they would have been admitted directly into the aisles through the two side doors provided for that purpose (fig. 2). The center door may have been reserved for the monks themselves and for great visiting personages and high occasions because it opened into the nave and shared the honor of that central space. The Orthodox Church treats the nave of a basilica as a westward extension of the area in which the liturgical offices are performed. We have abundant architectural evidence and some documentary indication that

⁹ Ernst Kitzinger, “Mosaics at Nikopolis,” *Dumbarton Oaks Papers*, 6 (1951), pp. 101 f.

¹⁰ Henri Stern, “Sur quelques pavements Paléo-Chrétiens du Liban,” *Cahiers archéologiques*, XV (1965), p. 31.

¹¹ The animals, in very low relief and outlined by engraved lines, were discovered by Mr. Van Nice while surveying the church. He tells me that they “had hitherto escaped notice because of the dim light of the narthex and their small size at a height of about three meters above floor level” (cf. P. A. Underwood, “Notes on the Work of the Byzantine Institute in Istanbul: 1957–1959,” *Dumbarton Oaks Papers*, 14 [1960], pp. 210–213, figs. 10–12).

such was the case at least as far back as the sixth century.¹² Certainly it is true of modern services in the Mt. Sinai church. At the present day, to be sure, no lay person is prohibited from setting foot in the nave through the great western door, but this may not have been true originally.

If we imagine an ordinary pilgrim as being admitted from the narthex into the interior of the church through the small door to the left of the great central one, he would see before him the perspective of the north aisle (fig. 15). On the right is the nave colonnade; on the left are doors to a row of chapels. Directly ahead is an opening in the eighteenth-century iconostasis and, beyond that, a monumental bronze-sheathed door which was an important feature of the sixth-century arrangements since its valves gave formal entrance to the corner chapel and thence to the court of the Burning Bush (fig. 2).

Before advancing along the aisle, the pilgrim might stop to examine the Chapel of SS. Constantine and Helen, which is the second on the left (fig. 19). Roofed by a segmental tunnel vault of rubble, which appears to be of sixth-century date, its end wall contains a large central niche with a smaller one to the left. There is no doubt that this and the other similar chapels which flank the church on both sides were part of the original plan (fig. 20). The excess number of them and their orderly, balanced arrangement, like an additional aisle on each side, are exceptional in the period. Normally, an Early Byzantine church needed only a main altar and, at most, a couple of chapels, often placed asymmetrically. The arrangement in our church, however, is reminiscent of later monastic churches in the West, where multiple altars were required and where they might be disposed in orderly fashion along the aisles, as in the St. Gall Plan. Thus far I have found no explanation for such an arrangement in the Mt. Sinai church.¹³

¹² Elsewhere I have suggested that such may have been the case in St. Peter's at Rome as originally constructed ("The Transept of Old St. Peter's at Rome," *Late Classical and Mediaeval Studies in Honor of Albert Mathias Friend, Jr.* [Princeton, 1955], p. 65). For a later example, probably to be dated in the fifth century, see fig. 48 herewith; the excavators found that the *schola cantorum* extended at least half way down the nave from the apse. In general, see R. Krautheimer, *Early Christian and Byzantine Architecture* (Harmondsworth, 1965), pp. 76, 159.

¹³ The Mt. Sinai side chapels and the sacristy which terminates each row of chapels at its eastern end have been described as later additions to the church. No evidence supports such an interpretation. No reprise lines separate the chapels and sacristies from adjoining walls which indubitably belong to the original campaign of construction. Nor could I find evidence that the curious double niches in the end walls of the chapels are later insertions; on the contrary, there is some positive indication that they are original. The larger of the two sacristies, which is now a treasure room, may have been at one time a library.

In the discussion period which followed this paper, attention was given to our side chapels. Two comparable examples were adduced: the early fifth-century Church of St. Felix at Cimitile-Nola near Naples; and the fifth- to seventh-century church in the Monastery of Moses on Mt. Nebo. The former is not very pertinent since, as far as can be judged from publications of it now available, its four lateral chapels are placed casually along its flanks, as if they were afterthoughts, and are not incorporated into the church plan organically like the six lateral chapels at Mt. Sinai. On Mt. Nebo the aisles are flanked by coextensive, balanced annexes, suggesting the orderly, symmetrical arrangement at Mt. Sinai, but the northern annex is occupied by a single hall, probably not a chapel, while the southern annex contains only one chapel and a baptistry. A more relevant example is the fifth-century Church of the Theotókos on Mt. Garizim in Palestine. Although it is an octagon rather than a basilica, its perimetric aisle is paralleled by four elongated chapels placed symmetrically on the diagonal axes of the octagon so that they are organically incorporated into the church plan, as are the lateral chapels at Mt. Sinai; each of them has an apse at its eastern end.

Before following the route of pilgrims along the north aisle, we may examine some of the capitals in its colonnade (figs. 32–34). Frequently Justinian's churches were furnished with marble capitals and other decorative fittings which had been fully detailed at one of the imperial marble quarries.¹⁴ A few smaller examples are found here, but obviously the big nave capitals, nearly a meter high, had to be carved of local granite, the only building material in the vicinity. There is considerable variation in their quality. Some have a rough-hewn vigor, expressive of their recalcitrant material and reminiscent of early Romanesque style. One of them has further interest in that its form can be traced to Syria and even to northern Mesopotamia (fig. 34).¹⁵

Having examined one of the side chapels and several nave capitals, we may continue to follow the pilgrimage route along the north aisle. Passing through the opening in the iconostasis, we see on our right the chancel and high altar (fig. 13). In the foreground is a marble panel with a shallow relief representing two confronted deer flanking a Cross. As indicated above, the panel was probably carved in one of the imperial marble quarries and imported ready made to form part of the original chancel rail. At the center of the chancel the original marble altar table is preserved, a monumental structure composed of a great slab supported on six colonettes, the whole being encased in an eighteenth-century housing of marquetry. On the far side of the chancel stands the tomb of St. Catherine. In part it is composed of reused marble fragments, including another chancel panel and a small capital and colonette. These scattered fragments may have come from a chancel screen similar to contemporary examples found elsewhere (fig. 50). In the case of our church, the chancel would have occupied only the last bay of the nave because its two columns are considerably thicker than the rest, suggesting their greater importance as marking the limits of the chancel. Such transverse colonnades, appearing already in the sixth century, are the prototypes of the iconostasis screen.

Finally, in the apse vault above the altar and on the wall above the vault appear the series of mosaic pictures which are among the greatest treasures of the monastery (figs. 13, 35–36). They are, as mosaics, a part of the wall of the church, just as much as is the marble revetment below them. Thus, their formal design deserves comment as part of the architectural design of the interior of the church. Moreover, being placed above the sanctuary and hence at the very focus toward which all lines of the nave converge, they surely express the theme which gives peculiar meaning to this church, and are relevant, therefore, to its intended function. The mosaics have both a formal and a functional aspect.

The theme is primarily the Transfiguration, as represented in the apse, and secondarily, Moses at Mt. Sinai, receiving his mission at the Burning Bush in the top left panel and receiving the Tables of the Law in the top right panel. Moses is a unifying link since he was also present at the Transfiguration,

¹⁴ A. H. M. Jones, *The Later Roman Empire, 284–602. A Social, Economic, and Administrative Survey* (University of Oklahoma Press, 1964), II, pp. 837–838, 1015.

¹⁵ The identifying feature of this capital is the form of the large leaves. They have plain surfaces and dome-shaped tops, each top being divided by a vertical groove under which is a pendant.

"talking with Jesus"—and not only he but also Elijah, another Old Testament figure associated with Mt. Sinai. Both of them are here present in the apse mosaic, standing to left and right of Christ.

The special function of the church is, therefore, clearly indicated in the mosaic. In addition to the normal liturgical purpose, for which the church was given to the monks, it was intended to commemorate the Transfiguration, which occurred on a distant mountain but was attended by Moses and Elijah, both of whom are associated with Mt. Sinai. This commemorative aspect of the church's function is magnificently illustrated just here, at the head of the church toward which the axis of the nave firmly directs us.

The pictorial theme is carefully adapted to the formal requirements of its architectural setting. Seen from the nave, the half dome of the apse appears like a great eye of which the mandorla of Christ is the pupil. Elijah and Moses standing to left and right, the kneeling figures of John and James, and the recumbent Peter under the mandorla are all harmonized within the architectural motif which, through the power of its abstract design, reinforces the pictorial message and gives it a symphonic impact. The two rows of medallions, which outline the apse like an architectural frieze, contain portraits of Old Testament figures below and of New Testament ones above, so that, again, the architectural design and the pictorial message blend to reinforce each other. Likewise, the two winged figures above perform the double function of filling the spandrels of the arch and of offering the scepter and orb to the Lamb who occupies a medallion in the keystone position. In order to provide a visual link between the medallion of the Lamb and the mandorla of Christ, there is between them another medallion which contains, as a symbolic link, the Cross. Such perfect blending of didactic and architectural arts, each reinforcing the other, is an extraordinary example of significant form.

The same fusion of form and content is evident in details of the mosaic. In the head and bust of Christ the simplified forms with emphatically rounded contours have an architectural character suited to their location in the curved half dome of the apse. In turn this simplification reduces the image to its expressive essentials, conveying through the power of abstract design an overwhelming effect of transcendent majesty.

The ornamental details are also of interest. In the double window over the apse the glazing is post-Byzantine, but the surrounding mosaic ornament is all original (fig. 31). Especially noteworthy is the impressionistic rendering of the leaves of the capital. The rectangular border is decorated with a series of rosettes resembling propellers. Alternate ones include also crossed lines ending in fleurons. This motif and the abstract geometric terms in which it is executed afford an instructive comparison with the Justinianic decorative details of mosaic borders found in St. Sophia.¹⁶

We may now return to the north aisle and continue to follow the pilgrims' route which leads through the bronze-sheathed door, previously mentioned, and

¹⁶ C. Mango and E. J. W. Hawkins, "The Apse Mosaics of St. Sophia at Istanbul. Report on Work Carried out in 1964," *Dumbarton Oaks Papers*, 19 (1965), pp. 113-151, esp. p. 148 and fig. 25.

into the northeast corner chapel (fig. 17). This is one of the two symmetrical chapels (fig. 18) at the east end of the church, both entered from the aisles through bronze doors and both covered with domes which are conspicuous from the exterior (fig. 5). Beyond the small iconostasis within the chapel is a door on the right which leads into the Chapel of the Burning Bush (fig. 14). As noted earlier, this was once an exterior door opening onto a small court in which grew the bush venerated as the original Burning Bush of Moses. Passing through the door one enters the chapel erected in the Middle Ages to replace the bush which, according to Thietmar, had been "taken away and divided among Christians for relics." At present a marble slab under the altar marks the spot where it once flourished.

Now that we have arrived at the goal of the Sinai pilgrimage, I should like to remind you of the route that has been followed within the church. Pilgrims were conducted along one aisle and, after visiting the Bush, would naturally complete their tour by moving back along the other aisle (figs. 2, 14-16). Their path of circulation to the relic would be in the form of a U around the back of the main apse. Such a subordinate position for the Bush and such a circuitous route to it indicate its secondary importance. The principal focus of the church is the main apse which terminates the axis of the nave. We must conclude, therefore, that in spite of the renown of the Sinai pilgrimage, drawing hither pious men from many lands, the monastic establishment, represented by the nave, was even more important. Implicit in the plan of the church is a basic distinction of attitude. To the ordinary pilgrim the Burning Bush was a numinous object which he viewed with awe and wonder and then went on his way with faith renewed by a witness so tangible. For the monks in their nave, however, the Burning Bush was evidently just a local memento, a reminder, of the unfolding of God's plan of salvation, so subtly and powerfully set forth in the mosaic over their main altar. Between the relic and the mosaic is only a wall, the wall of the main apse, but in idea they are very far apart.¹⁷

¹⁷ A commentator on the paper said he felt it had drawn too sharp a distinction between the monastic and pilgrimage functions of our church, whereas there was an iconographic link between them since the Burning Bush has been considered an antetype of the Metamorphosis. Such a comment is very valuable in helping us to arrive at a just balance between the importance of each function and at the intended relation between them. At least the Bush and its pilgrimage were not accorded a monopoly of interest, as at Qal 'at Sim 'an where the adulation of the mere column on which St. Simeon had once stood came pretty close to fetishism and was far removed from the lofty Christian doctrines so subtly set forth in the Mt. Sinai mosaic. In this mosaic the Bush plays a role, but only a subordinate one, while Moses plays a major one, secondary only to that of Christ. Moses is the only person to appear three times in the mosaic. First, he is shown receiving his mission from God at the Bush; second, he receives on the summit of Mt. Sinai God's covenant with Israel, embodied in the Law; and finally he appears in the apse as a supporting witness to God's new covenant with mankind through Christ. The first two events had occurred nearby and seemed to be deserving of visible commemoration. Not only did Justinian build the monastery at the site of the Bush; he also erected on top of the mountain a chapel, now entirely rebuilt but incorporating reused architectural details which are recognizably Justinianic. These two memorials, like documents in stone, attested to two events in the unfolding of God's plan of salvation. But the plan itself, in all its vast sweep, was spread out above the high altar of the monks in the church which Justinian had built for them "so that they might be enabled to pass their lives therein praying and holding services."

A question which deserves further discussion is the curious fact that Procopius asserts the church was dedicated by Justinian "to the Mother of God" and yet she is represented in a very subordinate position in the mosaic (in the medallion in the right spandrel of fig. 35). Perhaps Procopius was

We have now examined the fortress and the church and, finally, the site of the relic which fixed the location of both. There are many more structures and features of the sixth-century monastery which still survive, such as the intricate arrangements for drainage and conservation of water, the diminutive chapel in the thickness of the southwest wall (fig. 40), the vast arcading under the terraces (fig. 41), and the original kitchen, oven, and vault for storage of food (fig. 42). Although intrinsically interesting, they are less important and are merely indicated here.

Of great importance are the source and significance of the plan of the church. I hope to show that its plan is descended from a type of pilgrimage church long established in Palestine and was also influenced by a feature found in Cilicia and hence in the orbit of Antioch. As to practical problems of constructing the plan adopted, the builder, Stephanos of Aïla, was confronted with formidable difficulties because of the remoteness of the site. Very likely the requisite resources of men and materials were marshalled in his own native town at the head of the Gulf of Aqabah. Late Roman trade routes extended northward and northeastward from Aïla and would have allowed him to draw upon the Syrian and Mesopotamian regions.¹⁸ Such a connection would explain the resemblance, noted above, between a capital of distinctive type in the nave of our church and examples of the same type found in those two areas. From Aïla the easiest route to Mt. Sinai was probably by ship to a port on the west coast of the peninsula, perhaps modern Abou Zenima, where an ancient port of the Pharaohs had given access to their mines in the peninsula.

Although Stephanos came from Aïla, I find no significant resemblance between our monastery and any churches or fortresses in the Negev. Stephanos or, more likely, the office of public works which briefed and dispatched him had at its command a far larger vocabulary of architectural forms than is found in the Negev.

In view of such a broad frame of reference available to Stephanos, the famous religious monuments and centers of pilgrimage in Syria would certainly have been known to him and might have been expected to influence his plan for the Sinai church. In particular the martyrium built around the column of St. Simeon Stylites in the previous century would seem like an appropriate model. The reason why it, or any similar monument, was actually quite inappropriate for Mt. Sinai in the sixth century is worth examining briefly.

The laying out and progressive development of the martyrium of St. Simeon Stylites in the last quarter of the fifth century and in the first half of the sixth

wrong, which seems unlikely in the case of an important imperial foundation; perhaps there was a change of dedication while the church was under construction, but such a change would require an explanation. Any suggested solutions would be very welcome.

¹⁸ For a general map of late Roman trade routes in the whole area, see *Großer Historischer Weltatlas*, I. Teil. *Vorgeschichte und Altertum* (Munich, 1953), p. 37. For the north-south system of Roman roads between the area of Petra and Boṣrā (Bostra), see R. E. Brünnow and A. v. Domaszewski, *Die Provincia Arabia*, I (Strasbourg, 1904), pl. XL. For the continuation of the system from Boṣrā to Damascus and for the importance of Boṣrā as an interchange point, which put the system in relation with the Jordan and Mediterranean and with Mesopotamia and Arabia, see R. Dussaud, *Topographie historique de la Syrie antique et médiévale* (Paris, 1927), pp. 347-349.

are demonstrated in a series of drawings by Tchalenko (figs. 43, 44). As shown in drawing 1 of figure 43, the great cruciform was laid out around the column of the Saint on a sloping site so that the nearer wing hung out over the valley and had to be supported on a substructure. The sloping site is like that at Mt. Sinai; and this plan, or a simplified version of it, could have been wrapped around the Burning Bush. Due to difference in orientation, the apse would have been set against the left-hand arm of the cruciform.

An important point to note is that there is in drawing 1 of figure 43 only one accessory building, the baptistry at the right. As originally laid out, the complex gave no recognition to the fact that, ever since the lifetime of the Saint, many monks had been established at the foot of his column. In the original design the principal architectural focus was on the relic enshrined at the middle of its centralized martyrium. The monastic congregation received no architectural expression.

In the next phase, represented in drawing 2 of figure 43, monasticism begins to assert itself architecturally. Against the upper wing of the martyrium, a small chapel was built for the monks and, to the right of it, a dormitory wing. This development continues in the sixth century. Drawing 4 of figure 44 represents the state of the buildings when visited in about 560 by Evagrius, whose description has survived. By that time the dormitory wing had been extended so far as to incorporate the baptistry. The column of the Saint stood uncovered in an octagonal court and may never have been covered by a roof, before or since—archaeologists differ on this question—but Evagrius specifically states that in his time it was not covered. Since this was exactly the period when the Mt. Sinai church was being designed, such a scheme with radial wings around a court in which grew the Burning Bush might seem a perfect model to follow. Appropriate adaptations in scale and details to fit the local situation at Mt. Sinai could easily have been made without changing the basic scheme of a centralized cruciform around the relic.

The reason why the martyrium of St. Simeon would not have been a good model to follow at Mt. Sinai seems clear. In the design of the martyrium, as originally conceived in the fifth century, the relic of the Saint was all important while the monks were secondary and obtained only gradually even a subordinate share in the architectural complex. Not until the middle of the sixth century, nearly seventy-five years after the construction of the martyrium, did the monastic buildings reach their full development; and even then the martyrium far outweighed in size and importance the monks' little church. The Mt. Sinai monastery, begun just when the group around the martyrium was completed, picks up the development at that point and carries it much further. The relic is made secondary and the church of the monks dominates. As Procopius states: "Justinian built them a church." So secondary was the relic, the Bush, that he does not even mention it.

In spite of the reversal of emphasis, the Bush had to receive its due share in the plan of the church. Even though reduced in relative importance, it was still a famous object of pilgrimage and loosened generous purse strings for the

maintenance of the monks. We have seen that the plan adopted, in order to achieve this compromise, was a basilica in which the nave and main apse were allocated to the services of the monastic congregation, while pilgrims were permitted to follow a circuitous route to the Burning Bush behind the main apse.

Such a scheme, essentially a longitudinal axis inside a U-shaped circulation, had a genealogy going back to Constantine's foundations at the Holy Places of Jerusalem. The Holy Sepulchre and the Martyrium, as first completed by Constantine, represent an architectural scheme which is essentially the same as that of the Mt. Sinai church (fig. 45). Etheria describes the gathering of crowds before dawn in the atrium at the right and the opening of the doors at cock-crow so that the people could advance to services in the Anastasis which, by her time, had been built over the tomb. They pass through the aisles of the Martyrium, thereby circumambulating its nave just as in the Mt. Sinai church.¹⁹

The Constantinian church over the Cave of the Nativity at Bethlehem followed the same basic scheme (fig. 46). Its plan "reads" in the same sense, guiding the crowds through doors from the atrium into the aisles and from the aisles through other doors into the octagon where they might peer down through a central opening into the cave below. At a later period, perhaps in the sixth century or even more likely the fifth, the church was rebuilt with a sanctuary in the form of a triconch, but the essential parti of a longitudinal axis within a U-shaped circulation remained the same.²⁰

Another comparable example, intermediate in date between the Constantinian foundations and the Mt. Sinai church, appears in the Church of St. Theodore at Jerash in Jordan, built between 494 and 496 (fig. 47). Here the holy object in the center of the court at the left is a miraculous well whose water was turned into wine yearly at Epiphany. It was approached from the aisles through a porch and flight of stairs on each side of the apse.

These Palestinian examples differ from the Mt. Sinai church in one important respect. They do not give access to the relic or holy object through corner

¹⁹ "On the Lord's Day, the whole multitude assembles before cockcrow, in as great numbers as the place can hold, as at Easter, in the basilica which is near the Anastasis, but outside the doors (*föras*), where lights are hanging for the purpose. And for fear that they should not be there at cockcrow they come beforehand and sit down there. Hymns as well as antiphons are said, and prayers are made between the several hymns and antiphons, for at the vigils there are always both priests and deacons ready there for the assembling of the multitude, the custom being that the holy places are not opened before cockcrow. Now as soon as the first cock has crowed, the bishop arrives and enters the cave at the Anastasis; all the doors are opened and the whole multitude enters the Anastasis" (*supra*, fn. 1, *op. cit.*, p. 49). *Föras* can mean "out of doors," a translation which would make it even more clear that Etheria refers to the atrium of the basilica. In the Mt. Sinai church the equivalent of the atrium would be the narthex, in which to assemble pilgrims before they were led along the aisles to the Bush. Perhaps the practice of conducting a preliminary service for the pilgrims, as described by Etheria, may have survived until the sixth century and may explain the fact that the two square chapels at the west ends of the aisles of the Mt. Sinai church (fig. 2) open widely into the aisles through arches which span from wall to wall, as if to permit people in the aisles to participate in services held within those two chapels. By contrast, all the other lateral chapels are entered through low, diminutive doors.

²⁰ For a recent discussion and summary of the literature concerning the original form of the Church of the Nativity, its subsequent rebuilding, and its dates, see Marcell Restle *s.v.* "Bethlehem" in *Reallexikon zur Byzantinischen Kunst* (Stuttgart, 1964). Elsewhere I have suggested that the same basic concept of a pilgrimage church underlies the plan of Old St. Peter's at Rome (*loc. cit.*, *supra*, fn. 12).

chapels extending outward beyond the apse. Such an arrangement can be found in Cilicia which, as previously noted, was within the orbit of Antioch architecturally. The fifth-century church of St. Thekla at Meriamlik, a well-known center of pilgrimage, had two chapels jutting beyond the apse and giving access through doors to a terrace behind it (fig. 48). The purpose of the terrace is not evident. The principal relic of the Saint was not located there but under the church, being the cave in which she had lived. Similar projecting chapels occur in nearby Korykos in the sixth or seventh centuries (fig. 49). Although no reason is apparent for these Cilician chapels to enclose a small court behind the apse, their arrangement is indeed similar to the original sixth-century disposition around the Burning Bush at Mt. Sinai. While the Cilician type of plan may have influenced the Mt. Sinai church directly, more likely the type was known in the whole Antiochene area and radiated from there.²¹

As a final remark about possible sources of the plan of our church, may I say that its designer would hardly have sought prototypes in my ratiocinating way. Architectural history is one thing and architectural creation is quite another. My purpose has merely been to suggest that the architectural ideas embodied in the Mt. Sinai church were in the air in the Syro-Palestinian world of the sixth century and were visibly manifest in famous examples which would surely have been known to a designer sufficiently important to be charged with the Mt. Sinai commission.

It is now time to draw a few conclusions which may be relevant to the theme of the Symposium.

1) As a fortress, the monastery had its assigned part to play in the vast theater of military operations along the eastern borders of Justinian's empire. Although far inferior in strength to great strongholds, such as Daras, designed as bastions against the Sassanians in the north, the outpost at the foot of Mt. Sinai was adequate to its assignment to keep watch on the desert tribes of Arabia who might attempt to turn the southern end of the line.

2) The Mt. Sinai church reflects important developments in the ecclesiastical architecture of Justinian's eastern provinces. Being entirely isolated, it is not a member of a local family of Sinai churches, having only local interest. Nor does it show the strong architectural influence from Constantinople which might be expected in an imperial foundation. It is derived, rather, from the brilliant architectural milieu of Syria and Palestine.

3) As a witness to religious development in Eastern Christendom, the church is significant. In spite of its situation at a Holy Place, surely one of the most sacred outside of Palestine, the church is not a centralized martyrion wrapped around and subservient to the cult of the relic. It is not in the tradition repre-

²¹ In the Syrian area churches are known which resemble the one at Mt. Sinai in having chapels and rooms that flank the main apse and project beyond its outer perimeter (church at Palmyra; "cathedral" at Kerrätin). Unlike the Mt. Sinai church, however, these flanking structures do not have doors opening onto the area behind the apse and therefore could not form part of a U circulation, which is such a distinctive feature of the Mt. Sinai church plan. The projecting eastern chapels of S. Apollinare in Classe, which have been suggested as parallels to those at Mt. Sinai, have no doors opening into the area behind the apse.

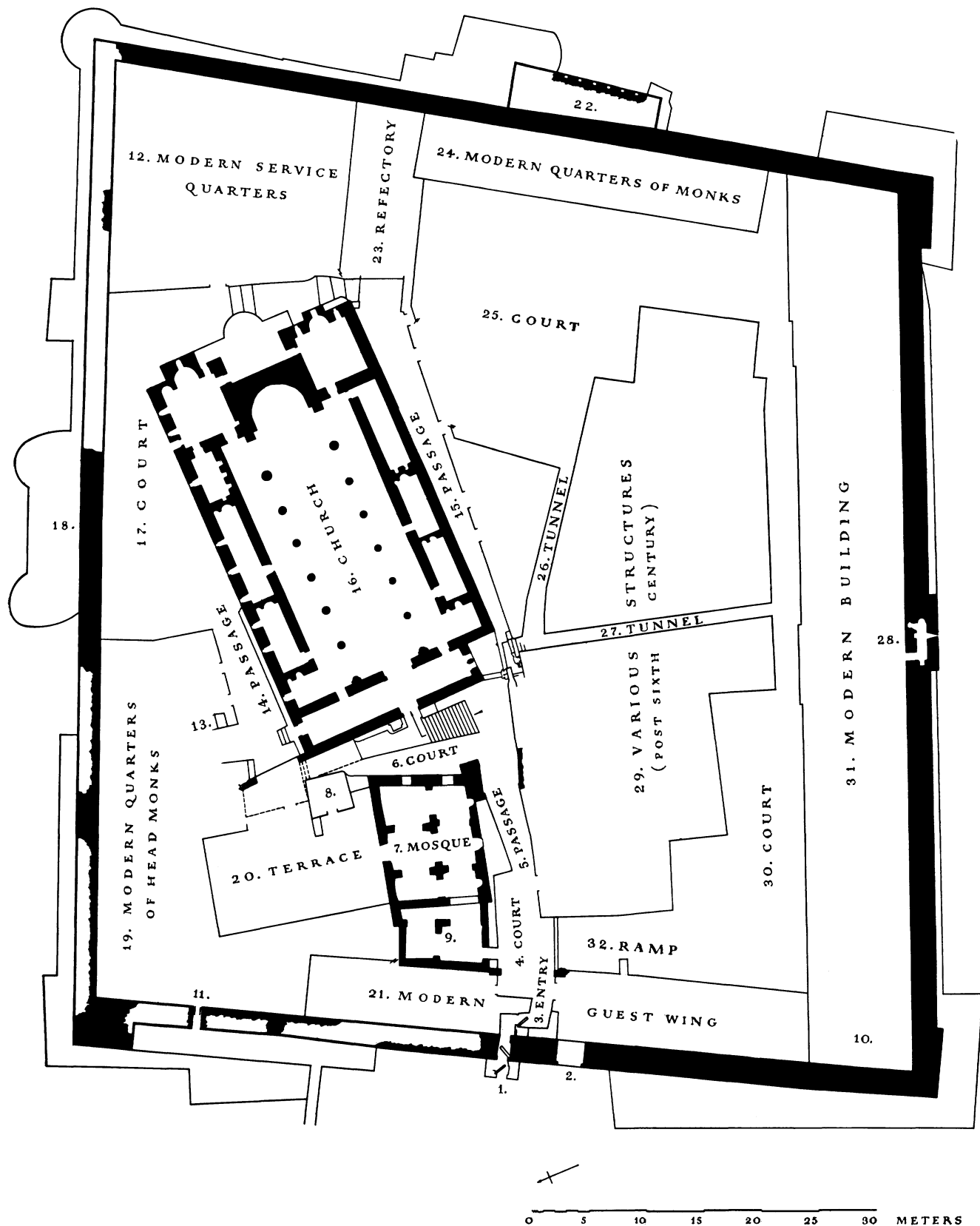
sented by the fifth-century Martyrium of St. Simeon Stylites. Instead, it follows the balanced Constantinian tradition and treats the relic less as an end in itself than as a memento of God's plan of salvation, graphically represented and liturgically commemorated in the adjoining basilica at Mt. Sinai.

Moreover, the basilica had been given by Justinian to monks. We have here, consequently, an architectural documentation of the maturing of Eastern monasticism.

4) Finally, we have to respect the sheer physical achievement of implanting in a howling wilderness this sophisticated structure, partly built of recalcitrant local granite and partly of materials imported with infinite toil. Certainly the determination and the administrative ability displayed in the construction of the monastery at Mt. Sinai bear witness to the disciplined vigor of Eastern Christendom under Justinian.

KEY TO PLAN IN FIGURE I

- | | |
|--|---|
| 1. Porch (originally, Postern) | 17. Court |
| 2. Original Portal (blocked) | 18. Kléber's Tower (Early Nineteenth Century) |
| 3. Entry (under Guest Wing) | 19. Modern Living Quarters and Reception Room of Head Monks, in North Corner |
| 4. Court | 20. Terrace (on Sixth-century Arches) |
| 5. Covered Passage (Mediaeval Vault) | 21. Guest Wing (Nineteenth Century) |
| 6. Court and Steps down to Church | 22. Former Latrine Tower in Southeast Wall |
| 7. Mosque (Converted Sixth-century Guest House) | 23. Present Refectory (Mediaeval) |
| 8. Minaret | 24. Modern Living Quarters of Monks (against Southeast Wall) communicating by Verandahs |
| 9. Storeroom (Sixth-century Antechamber) | 25. Court above Modern Bakery |
| 10. Complex of Sixth-century Arches in Basement at West Corner | 26. Tunnel under 29 |
| 11. Rainwater Drain (Sixth Century) running Northwest under Road and to Garden | 27. Tunnel under 29 |
| 12. Modern Kitchen and Service Quarters in East Corner (above Sixth-century Kitchen) | 28. Chapel (Sixth Century) in Southwest Wall |
| 13. Well of Moses | 29. Structures of Various Uses and Dates (post Sixth Century) |
| 14. Uncovered Passage at Lower Level | 30. Court (Well at Center) |
| 15. Uncovered Passage at Upper Level | 31. Modern Building on Sixth-century Wall |
| 16. Church | |
| | 32. Ramp Mounting from 4 |



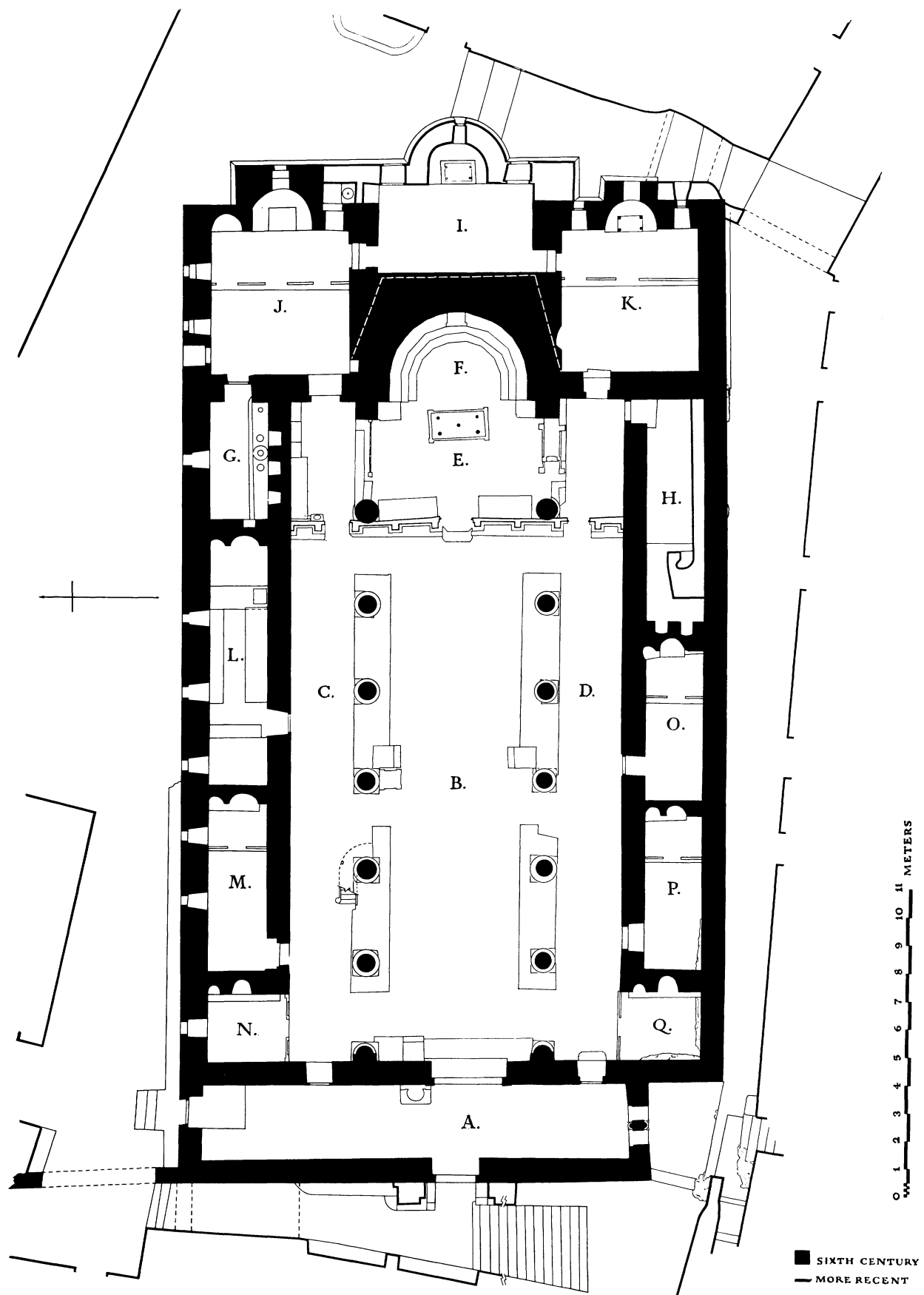
1. Mt. Sinai, Monastery of St. Catherine. Plan showing Sixth-century Elements in black and in heavy outline (Key on facing page)

KEY TO PLAN IN FIGURE 2

- A. Narthex
- B. Nave
- C. North Aisle
- D. South Aisle
- E. Sanctuary
- F. Apse
- G. Sacristy
- H. Treasury

Chapels in Church

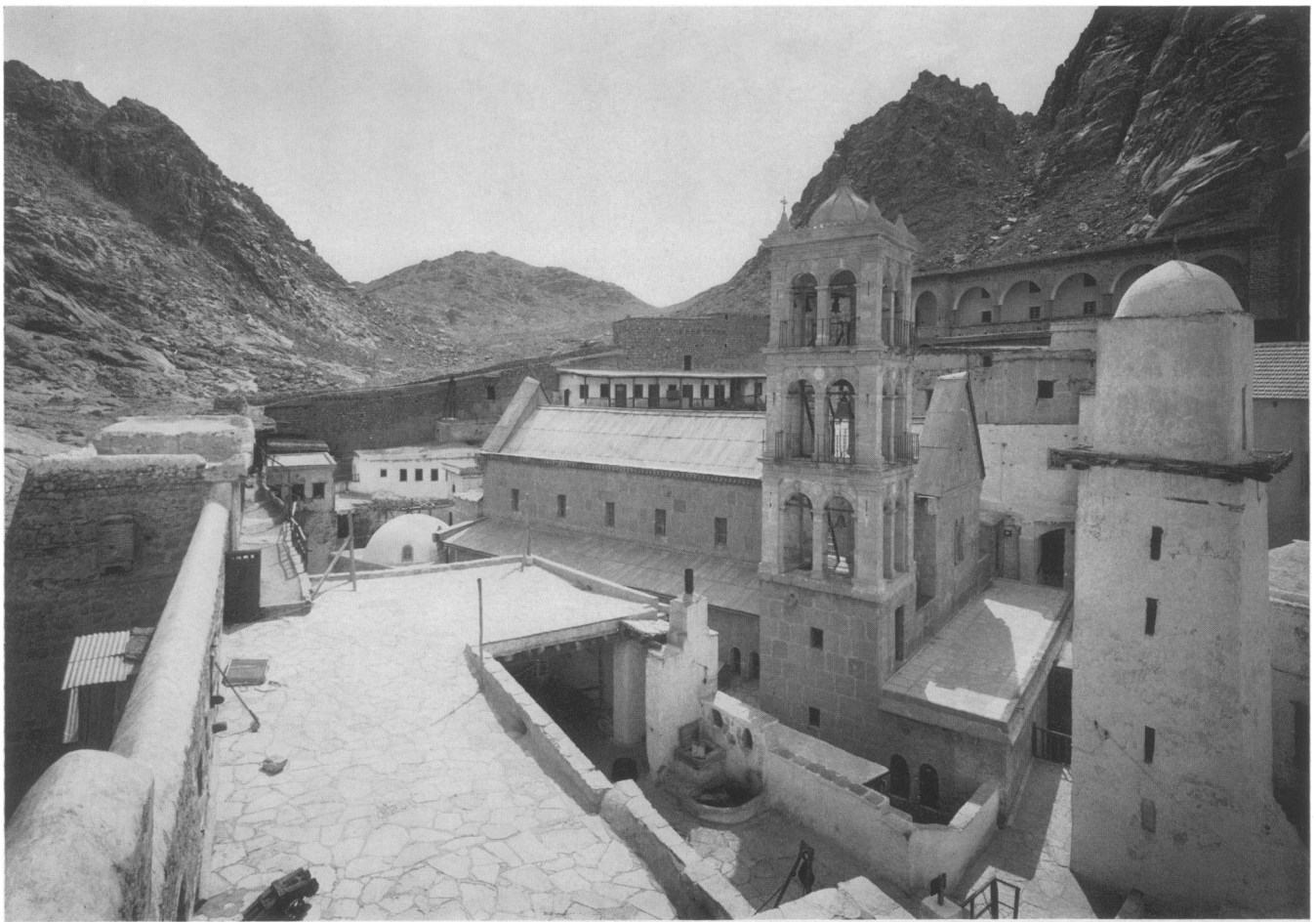
- I. Burning Bush (Mediaeval)
- J. St. James the Less
- K. Holy Fathers (St. John Baptist?)
- L. St. Antipas
- M. SS. Constantine and Helen
- N. St. Marina
- O. SS. Anne and Joachim
- P. St. Simeon Stylites
- Q. SS. Cosmas and Damian



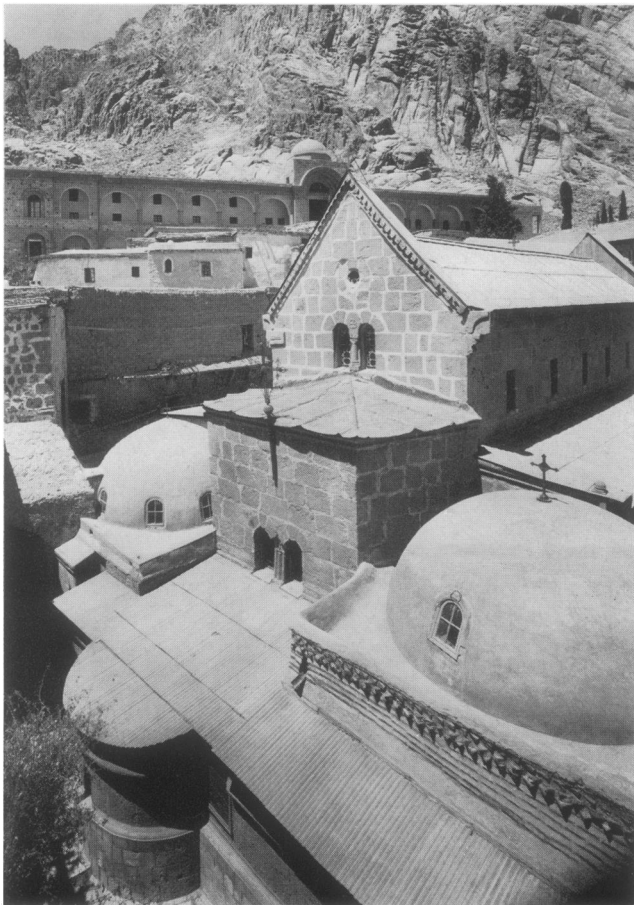
2. Church. Plan showing Sixth-century Elements in black (Key on facing page)



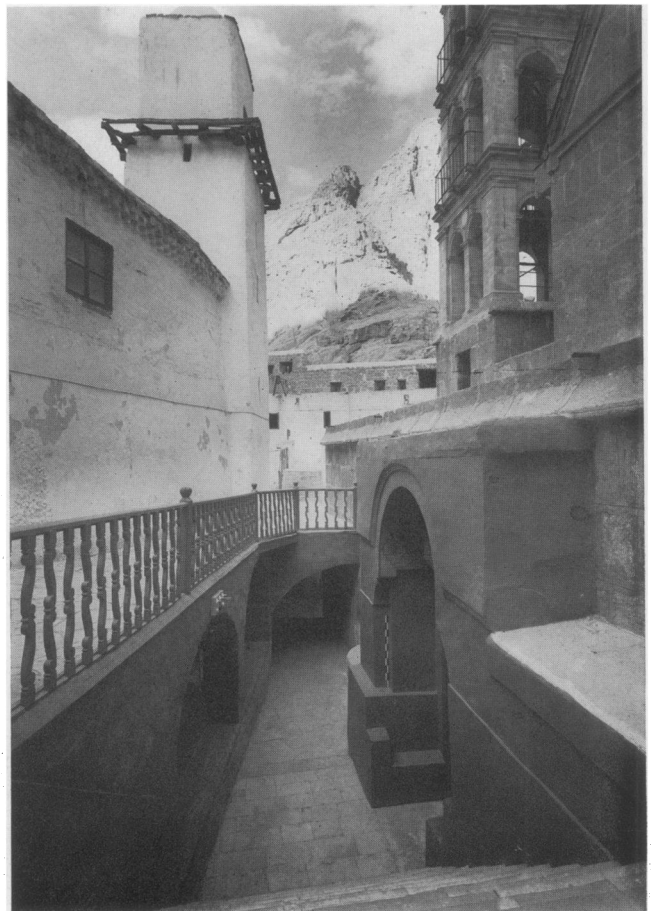
3. Monastery from the East. A Shoulder of Mt. Sinai rises behind



4. Interior of Monastery from Its Northwest Corner. Church in center; Minaret of Mosque at right



5. East End of Church. Domes over Corner Chapels



6. West Porch of Church at foot of Stairs. Mosque and Minaret at left



7. Door from Narthex of Church into Nave



8. Left Half of Door



9.



10.



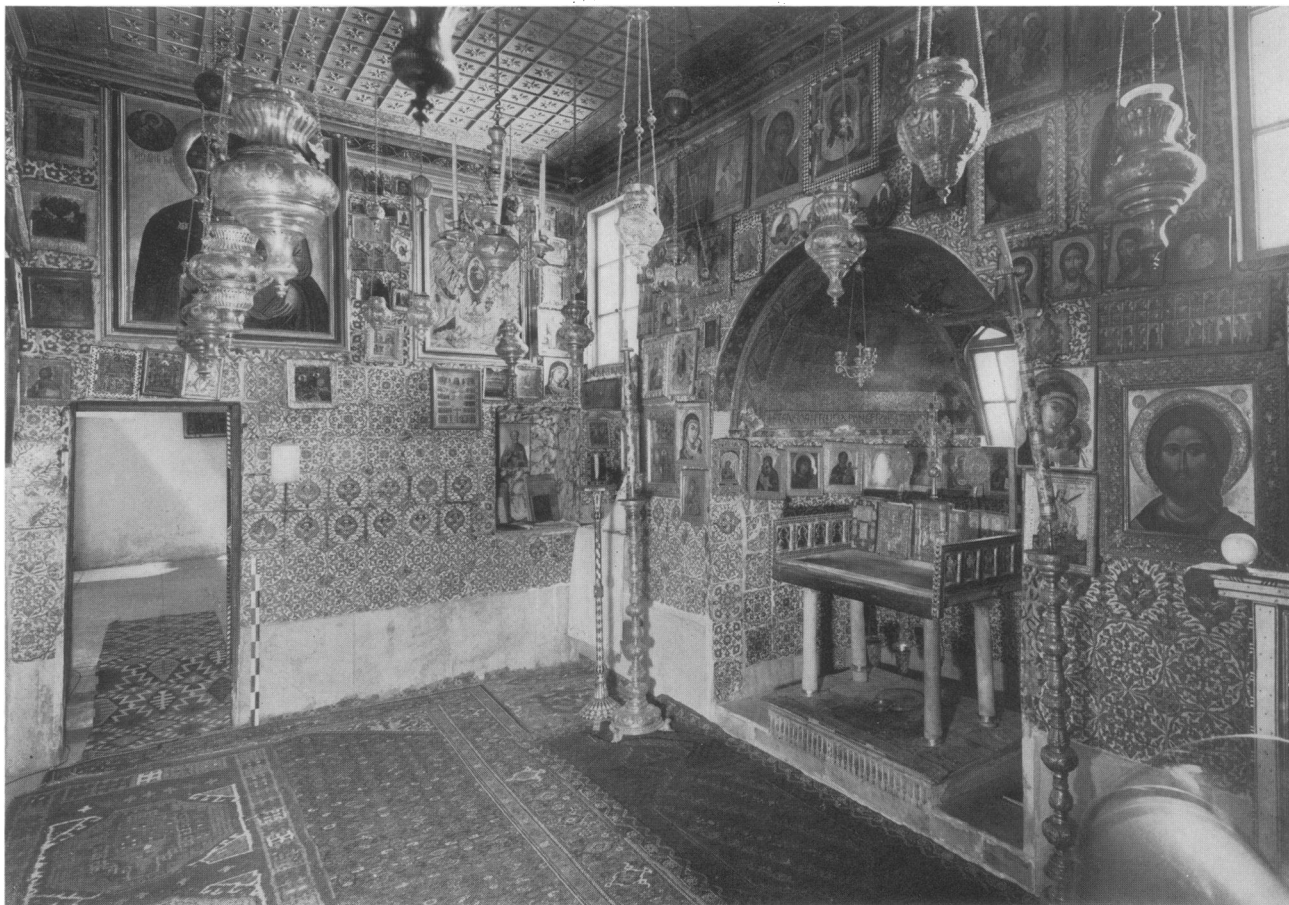
11.
Panels of Door



12. Nave from Narthex



13. Sanctuary and High Altar. Tomb of St. Catherine on far side



14. Mediaeval Chapel of the Burning Bush. At left, Door from Northeast Corner Chapel



15. North Aisle of Church. At far end, Door to Northeast Corner Chapel



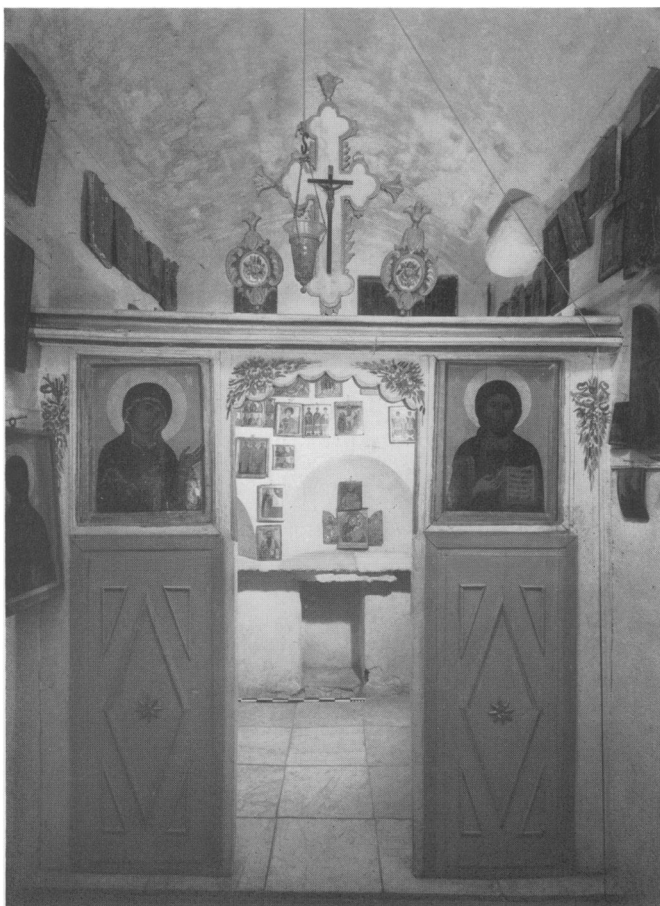
16. South Aisle of Church. At far end, Door to Narthex



17. Chapel of St. James the Less, at Northeast Corner (Fig. 2J). Door to Chapel of Burning Bush at right



18. Chapel of the Holy Fathers, at Southeast Corner (Fig. 2K). Door to Chapel of Burning Bush at left



19. Chapel of SS. Constantine and Helen, flanking North Aisle (Fig. 2M)



20. Chapel of SS. Cosmas and Damian, flanking South Aisle (Fig. 2Q)



21. Original Roof Structure over Nave. Movable Panels hung between Horizontal Beams in Eighteenth Century



22. Beam over Nave after Removal of Panel from Molding nailed against Inscription in Eighteenth Century



23.



24.

Relief Carving under Easternmost Beam across Nave



25. Detail of Carving in Figure 24



26. Detail of Carving under Center of Second Beam from West End of Nave



27. Detail of Carving under Second Beam from West End of Nave



28. Detail of Carving under Eleventh Beam from West End of Nave

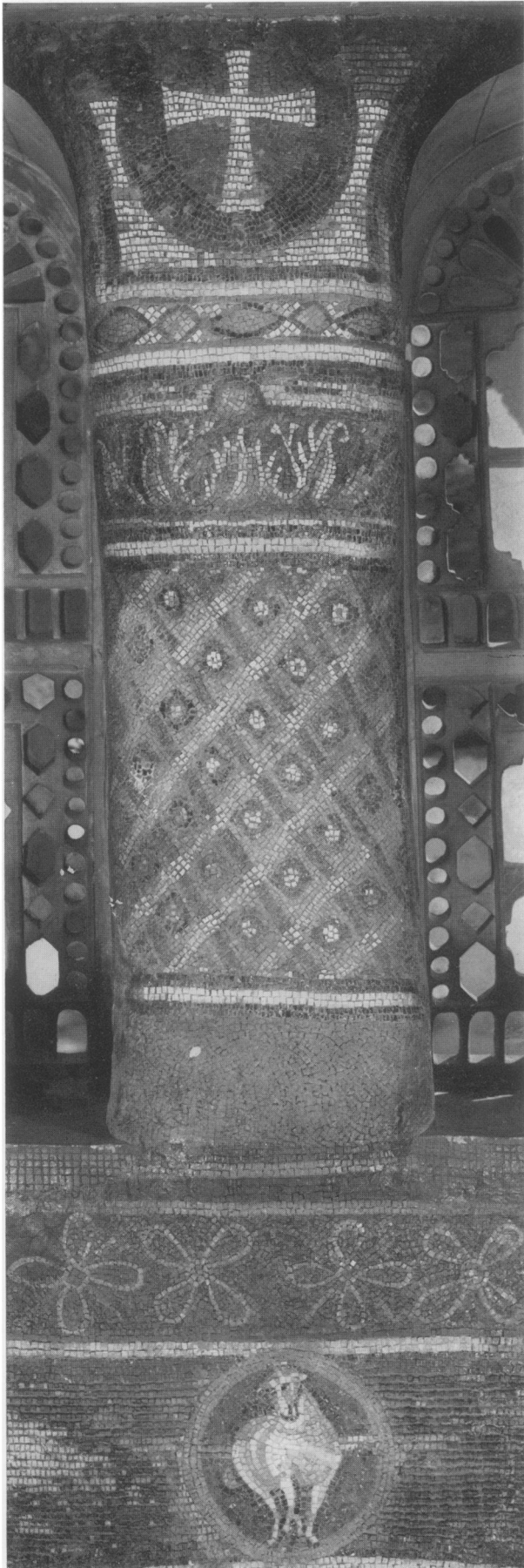


29.



30.

Details of Carving under Eighth Beam from West End of Nave (cf. Fig. 22)



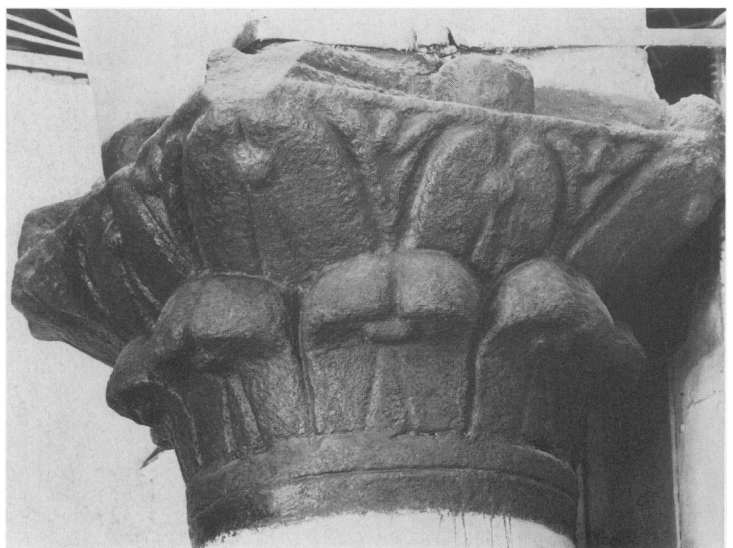
31. Colonnnette over Apse (cf. Fig. 35)



32.



33.



34.
Capitals under Nave Arcades



35. Mosaic at East End of Nave



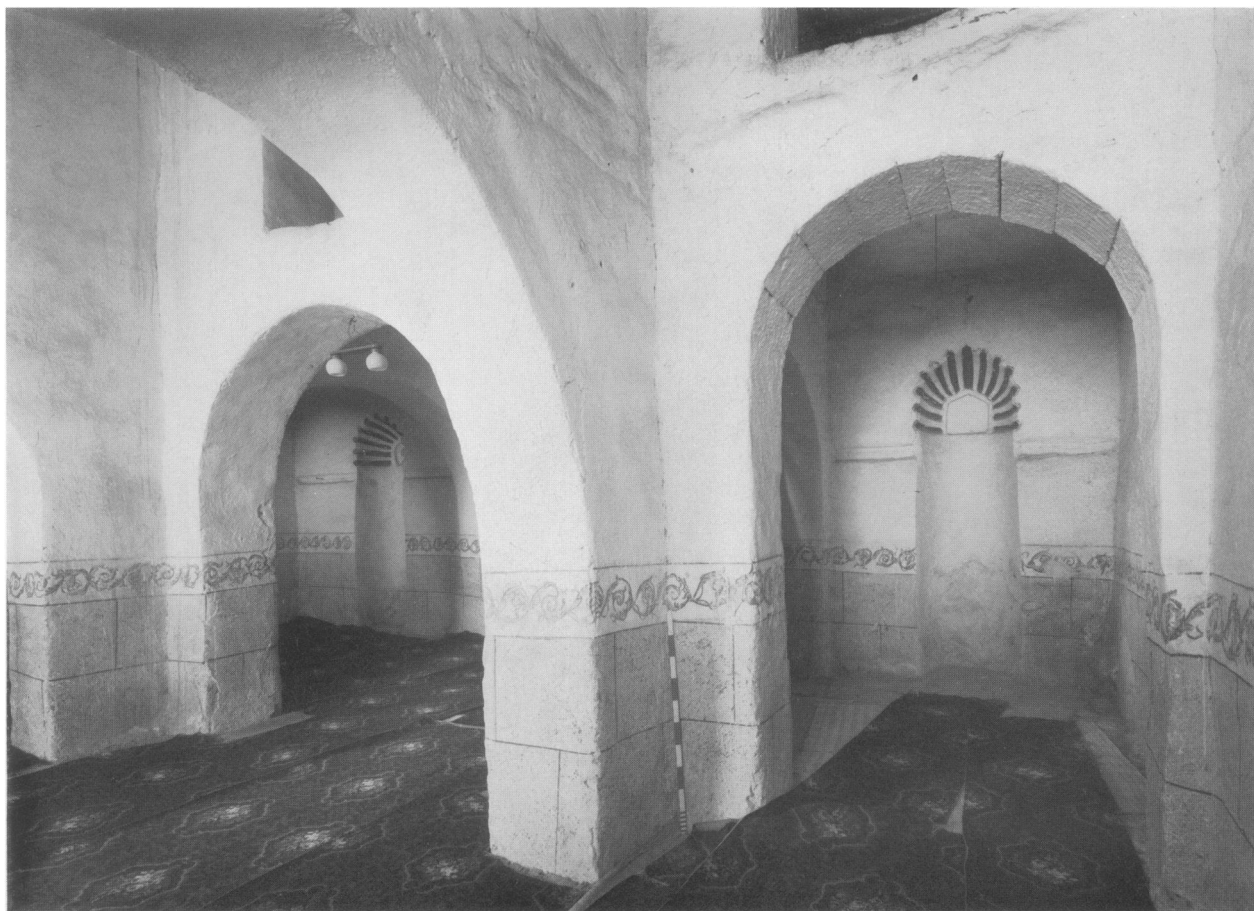
36. Detail of Figure 35



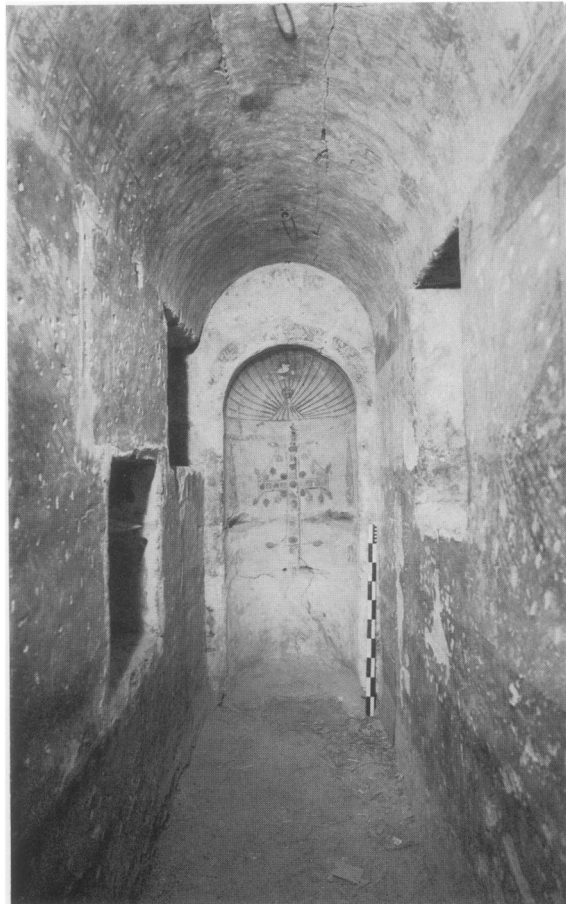
37. Main Portal of Monastery from Exterior



38. Original Guest House (now a Mosque) and Minaret.
At left, Propylon leading from Portal (Fig. 37); at right, Steps down to Church



39. Interior of Mosque (Fig. 38), originally divided into two Storeys



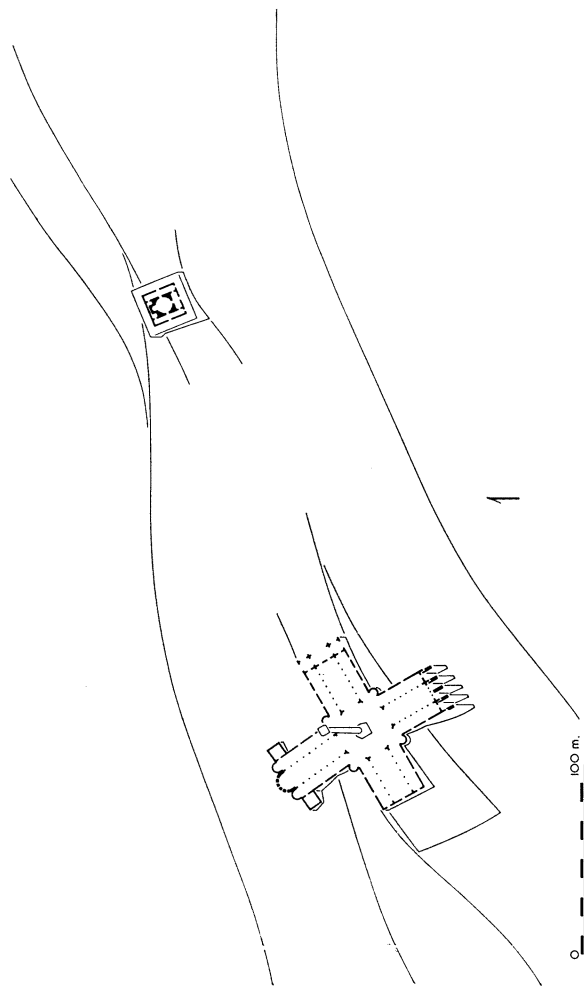
40. Chapel in thickness of Outer Wall (Fig. 1, no. 28), looking toward Apse



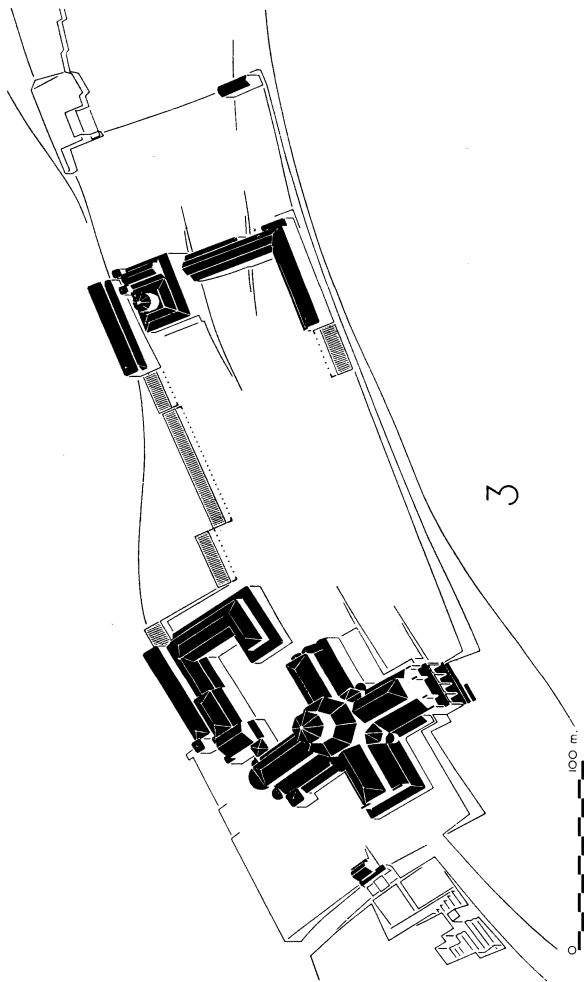
41. Arcading under Terrace



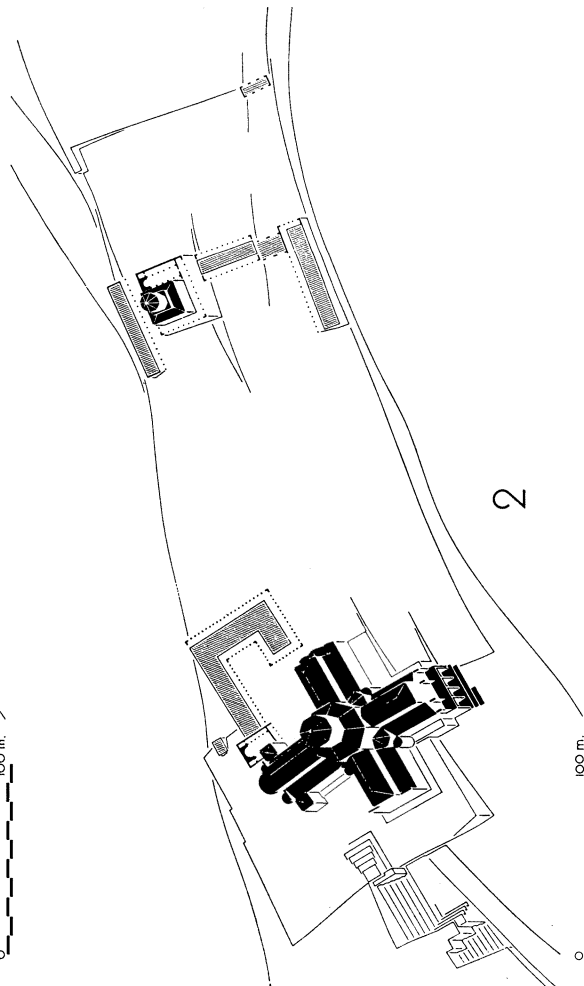
42. Vault for Storage of Food



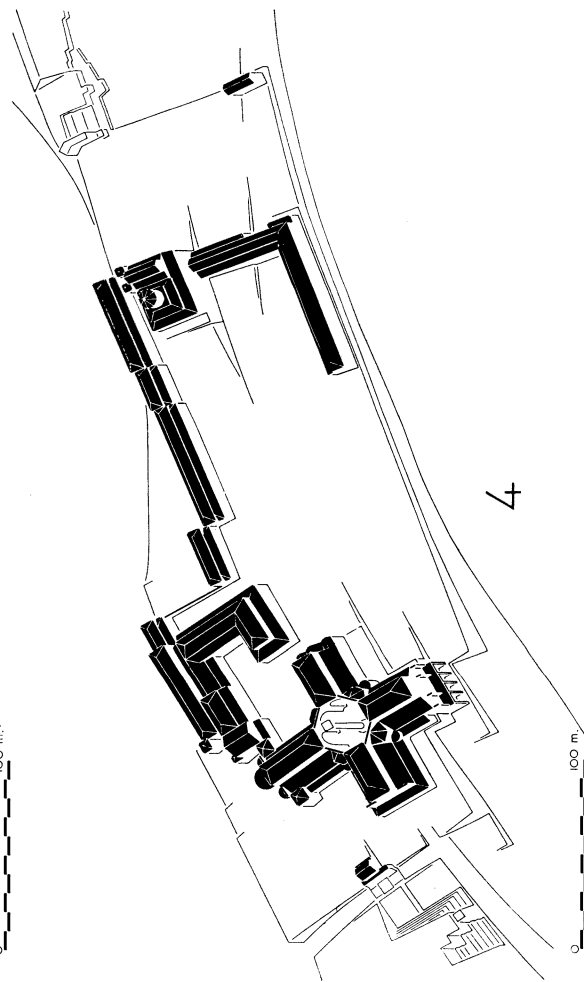
1



3



2

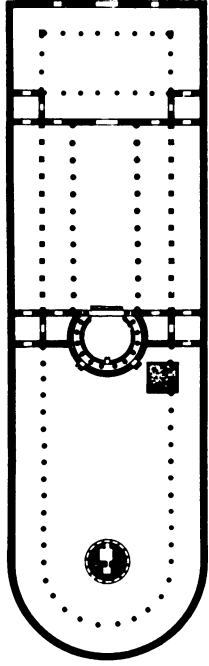


4

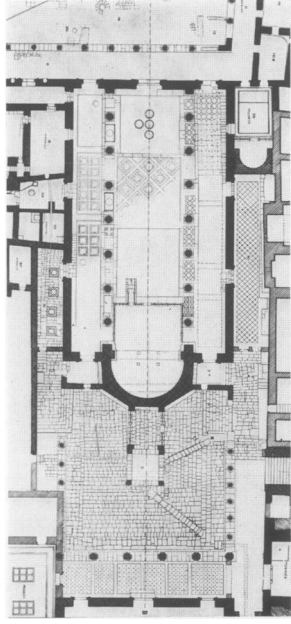
43.

44.

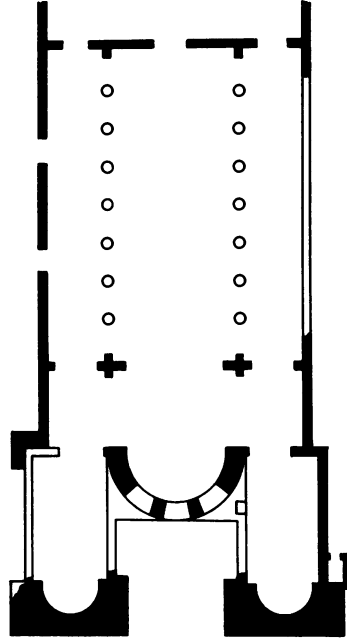
- Syria, Qal 'at Sim 'an: 1. Cruciform Martyrium and Baptistry (*ca.* 475);
 2. Addition of Annexes (late Fifth Century); 3. Development of Annexes (before 526-528);
 4. As seen by Evagrius (*ca.* 560)



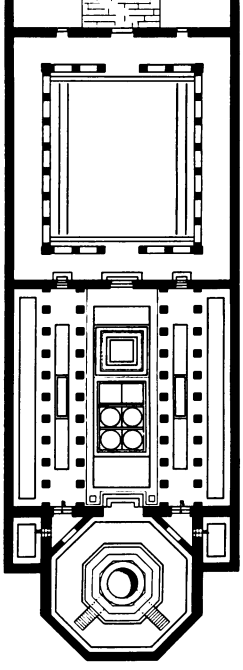
45. Jerusalem, Basilica on Golgotha (ca. 335)



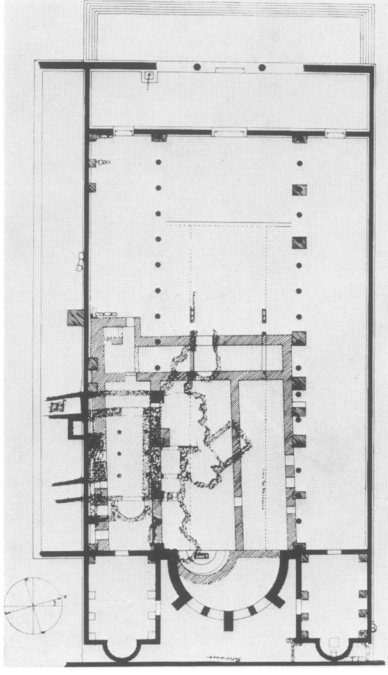
47. Transjordan, Jerash (Gerasa),
Church of St. Theodore (494–496)



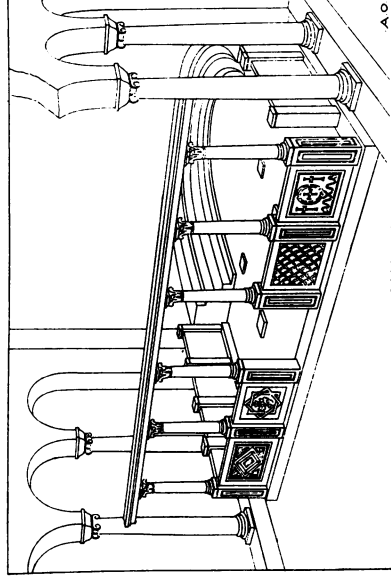
49. Cilicia, Korikos, "Transept Church *extra muros*"
(probably Late Sixth Century)



46. Bethlehem, Constantinian Church of Nativity



48. Cilicia, Meriamlik, Church of St. Thekla (ca. 460–470).
(Cave, stippled; Later Church, hatched)



50. Lesbos, Aphentelle, Basilica (Sixth Century)